I have found the following equations of condition; in the case of occultations observed at Greenwich, the Greenwich value of Semid. – Distance is given for comparison :—

Date.	Semid.—calculated Distance. Williams.	Greenwich.	$=e\times$	$+f\times$	$+x\times$	$+y\times$	$+t\times$	$+m\times$	$+n\times$
	″								
1905 May 12	−7·40		= + ·77	+ ·62	− ·77	− ·61	− ·43	− ·60	− ·89
Sep. 19	−0·91		= + ·11	− ·99	− ·11	+ ·99	− ·19	+ 2·17	− ·96
Dec. 8	−4·18		= + ·78	− ·61	− ·78	+ ·61	− ·42	+ ·04	− ·88
1906 Ap. 6	−6·36	−7·81	= + ·51	+ ·86	− ·51	− ·86	− ·37	− 2·97	− ·97
Nov. 19	−2·33	−5·12	= + ·92	+ ·18	− ·92	− ·18	− ·46	+ ·69	− ·99
1907 Jan. 21	−1·56		= + ·99	+ ·05	− ·99	− ·05	− ·36	+ 1·24	− ·90
26	−3·20	−4·68	= + ·87	+ ·37	− ·87	− ·37	− ·35	− 2·18	− ·89

[The following were received too late for insertion in the Annual Report of the Council.]

Report of the Melbourne Observatory. (*Director Mr P. Baracchi.*)

The principal astronomical work done at this observatory during the year 1906 was limited, as in previous years and for the same reasons, to meridian observations and stellar photography, including the measurement of plates of the Sydney and Melbourne Zones, in regard to which a separate report is appended.

Meridian Observations.—These were made with the 8-inch Transit Circle, and were as follows :

	Observations in R.A.	Observations in N.P.D.
Clock Stars . . .	505	...
Azimuth Stars . . .	269	117
List Stars	1276	1289
Total .	2050	1406

The list stars were selected from the Melbourne plates of the Astrographic Catalogue, to serve as fundamental points of reference for the reduction of these plates.

The total number of this class of stars now completely observed not less than three times is 5545.

The reductions, including the preparation of the annual catalogue for 1905, are well advanced.

A general catalogue for the epoch 1900, including all stars observed since 1894, is in course of preparation.

No authority has yet been obtained for printing the general catalogue for the epoch 1890, the MS. of which was prepared some years ago.

Stellar Photography.—The Melbourne portion of the photographic catalogue and chart of the heavens has been further advanced as follows:—

	Passed as satisfactory.	Rejected.
Chart Plates with triple exposure of 30^m each .	45	3
Catalogue Plates (duplicate series)	19	...
Test Plates on South Polar region	14	...
Test Plates on Oxford Type Charts . . .	5	...
Plates for trials, adjustment of centre, etc. . .	15	...

Prolonged ill-health of the observers is partly accountable for the small progress shown by the above return.

The astrophotographic work now stands thus:—

The first series of 1149 plates, covering the entire region, $-64°$ to the South Pole, twice, and the series of chart plates with single exposure of one hour, the centres being at even degrees of declination from $-66°$ to $-90°$, were completed some time ago.

A duplicate catalogue series is now being made, and of this, 335 plates have been taken and passed as satisfactory.

In the chart series with triple exposures of 30^m each, the centres being at odd degrees of declination, 519 plates have been taken and passed as satisfactory; 65 plates require to be taken again to conclude this part of the work.

It is intended to extend the series of triple exposure chart plates to the regions with centres at even degrees of declination.

The following routine duties and other miscellaneous work were carried out for local requirements, as in former years:—

The time service; the weather service, comprising the control of some 980 country stations; the rating of chronometers for the shipping, and the testing of nautical meteorological and surveying instruments; the operations of the Bureau of Standard Weights and Measures; the continuous registration of the variations of sea-level, atmospheric elements, seismic disturbances, and the elements of terrestrial magnetism, including absolute magnetic measurements and the measurement and reduction of hourly ordinates on the magnetic curves of past years, for the purpose of clearing up, completing, and preparing for publication the results of a long series of magnetic records, extending back to the year 1868.

Joint Report of the Directors of the Observatories of Sydney and Melbourne on the Measurement of the Plates of the Astrophotographic Catalogue.

The measurement of catalogue plates obtained at these observatories was continued by the Bureau established for this purpose at the Melbourne Observatory in 1898, and since maintained at the joint expense of the States of New South Wales and Victoria.